



BUSINESS PLAN - DORMITORY FOR STUDENTS AND REFUGEES IN COLOGNE

Submission for the Entrepreneurship Module
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1 Executive summary

In recent years the demand for available and affordable accommodation by especially students in Cologne increased rapidly. Including the recent high demand for accommodation to host asylum seekers emerged this problem to be higher in priority.

In order to meet the demand for accommodation, construction of new housing units in Cologne is necessary. According to recent data, there are around 10.000 refugees staying in Cologne.

Referring to the same data source, refugees are temporarily staying at different accommodation facilities such as hotels, prefabricated houses, containers, dormitories and provisional accommodation. Therefore this business plan is conducted in order to create alternative housing units to fit the demand. Idea is to create a business plan in order to attract investment for a dormitory and a few extra facilities for a user profile including students and refugees in Cologne.

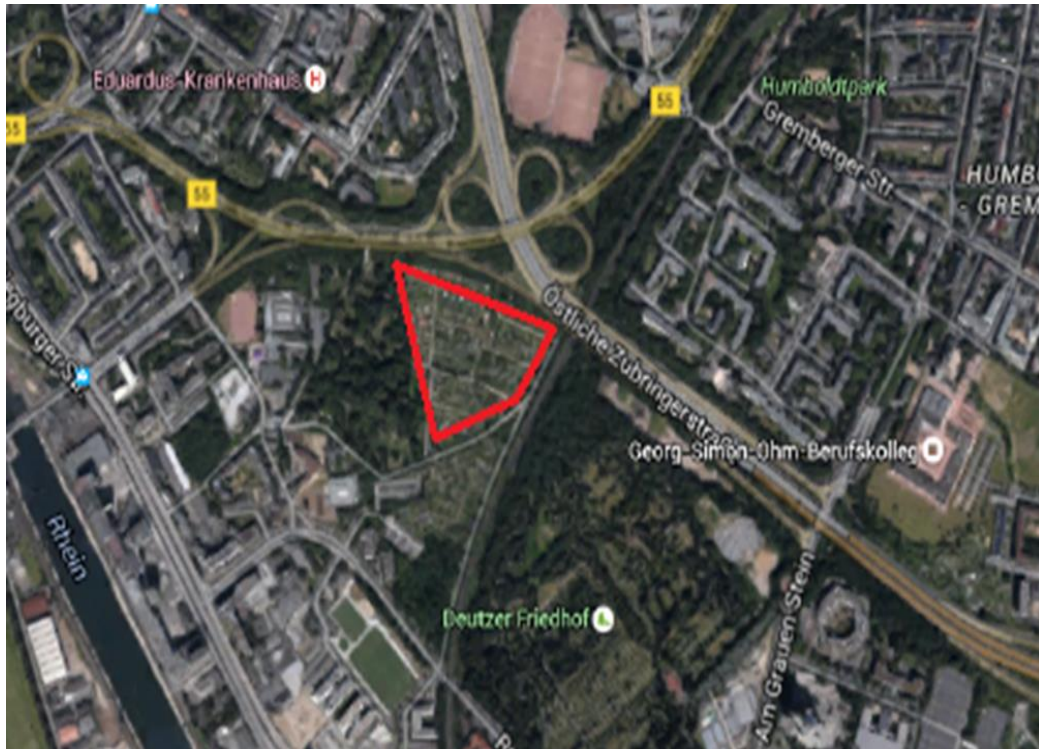
2 Location

The place we plan to purchase for the investment is located in Deutz near the TH Köln. It has the area of approx. 3,5 hectares / 35000m² „Sondernutzungsfläche“ and the neighbouring ground is between 370-740€ per m². We assume the purchasing price is 300Euro per m²

The site is abundant of social services which will make the life of the students and refugees easier. The place is surrounded by:

- 5 min walk to subway
- TH Köln in walking distance
- Deutzer Stadtpark next door
- Shopping Centres nearby
- Sports Ground in the Neighbourhood

The place we wish to rent is in Deutz, with the TH Köln and a subway station in walking distance. The area is 3,5 ha and due to the large area we assume a price of 300 €/m² which is cheaper than the neighbouring areas.



Picture 1: Satellite Image of the construction side (red markings).

Source: Borisplus NRW

3 Market Analysis

Crucial information for our business plan is, whether we will be able to rent all our apartments permanently or have to fear empty flats. To gather the information necessary, we got in contact with the municipality of Cologne, some neighbouring municipalities and the Kölner Studentenwerk, as the main provider for student housing in Cologne.

Additionally, the identification of a suitable site had to be conducted which was carried out via the internet information platform Borisplus NRW and individual observation during the planning process.

3.1 Refugees' Market analysis

Regarding refugees, the municipality of Cologne is experiencing a steadily growing amount of refugees. In December 2015, more than 10.000 refugees were received and accommodated in Cologne – a number that more than tripled within the last two years.

Even if we take into account, that about 40% of the refugees are coming from the south-eastern European countries and have a very limited probability of getting granted for asylum, the municipality is facing a severe shortage of available rooms. Talking with politicians from other municipalities nearby, they confirmed us, that finding accommodation for all the newcomers is a major problem for the local governments and they are willing to pay “way more than the usual amount” (vice mayor of a nearby municipality) to solve it.

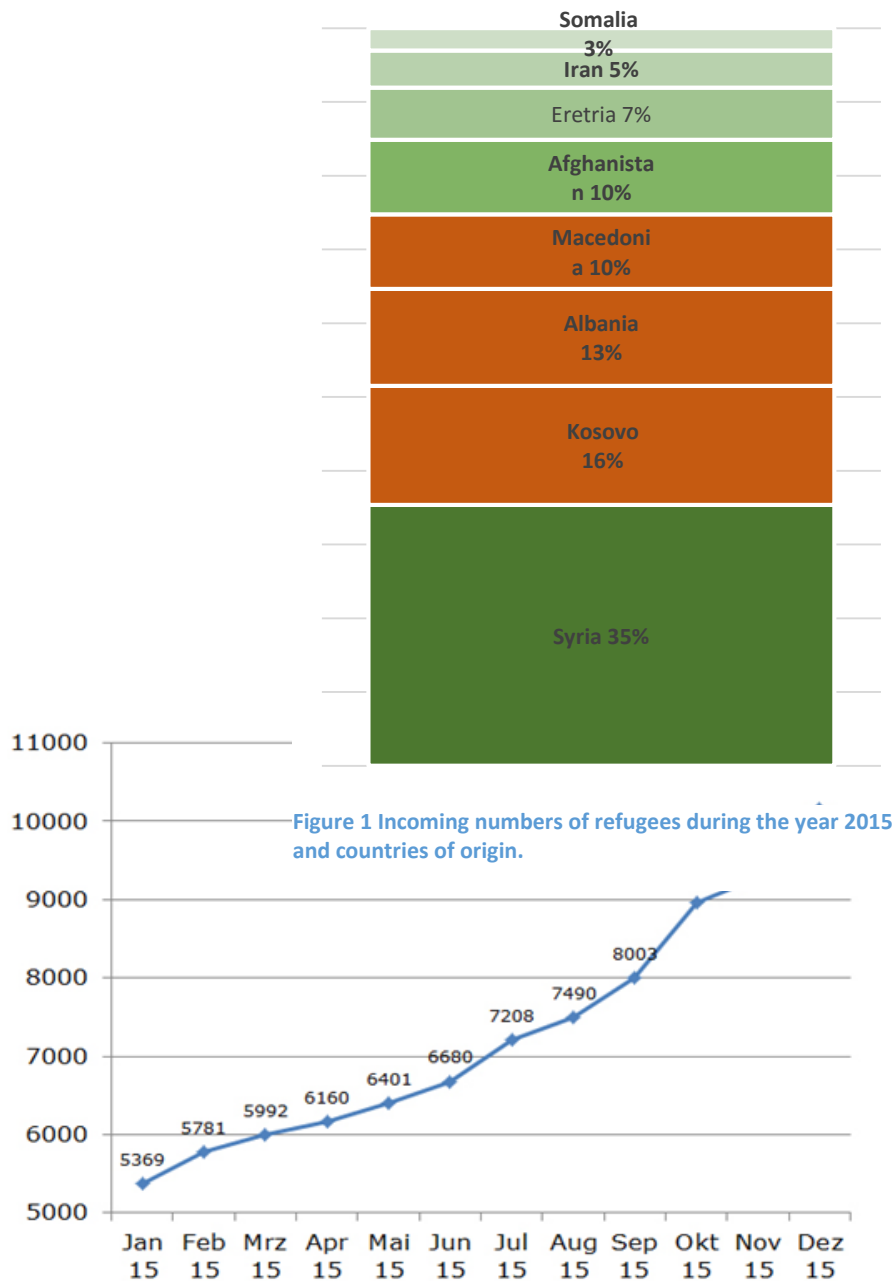


Figure 2 Number of Refugees per Month.

To conclude on refugees' accommodation, the usual amount paid by the social office is 8.25 €/m² for rent including side costs and 1.30 €/m² for heating. However, referring to several officials the current crisis has forced the municipality to pay extra on top. Unfortunately, we were not able to find out, how much this "extra" is, but indications are strong that the municipality is accepting unusual peak prices (twice the normal price) to provide accommodation for refugees in the current situation. According to an estate agent in Düsseldorf, various help organizations are willing to pay nearly double the current rent for apartments to accommodate refugees.

3.2 Students' market Research

Regarding students, the Kölner Studentenwerk is currently offering 3.000 student accommodations out of 10.000 student applications they have received. After the organization was able to increase its capacity over the last two years, situation may get even worse again, as two buildings will be given back to the Catholic Church in two years. Therefore, the Studentenwerk "is always looking for new buildings, regardless of the location" (Mrs. Garika from Studentenwerk). Prices depend on the persons per apartment, the year of the building and its location. With rooms between 10-36 m² this is currently resulting in monthly rents between 181-352 € including side costs.

District	Size of rooms (m²)	Rent
<i>Agnesviertel</i>	22-32	244-253
<i>Altstadt Nord</i>	21-26	269-291
<i>Deutz</i>	17-31	263-305
<i>Gummersberg</i>	21-29	212-257
<i>Hurth-Efferen</i>	15-30	181-289
<i>Kalk</i>	26-33	298-314
<i>Klettenberg</i>	19-26	214-263
<i>Lindenthal</i>	10-32	141-312
<i>Sportpark</i>	15-31	216-331
<i>Muengersdorf</i>		
<i>Neuestadt Sued</i>	22-35	268-352

<i>Rodenkirchen</i>	14-33	148-294
<i>Sulz</i>	14-34	197-354
<i>Zollstock</i>	17-36	218-332

Table 1 Prices for Accommodation in Studentenwerk Dormitories.

There is a striking difference when we compare the Studentenwerk prices with the private housing market prices. According to interviews with several students, the costs for 12-14 m² furniture with shared kitchen, terrace/balcony, storage and living room are around 350-500 € monthly. We can therefore conclude that there is willingness and ability to pay even higher rents than the ones charged for the dormitories now.

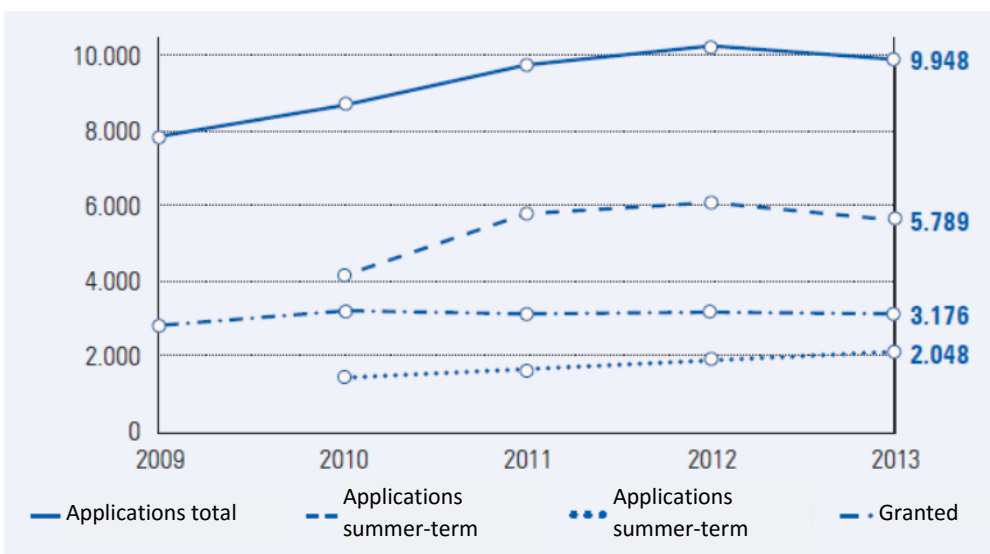


Figure 3 Development of applications for the Studentenwerk dormitories.

3.3 Overall state of the Market

By summarizing previous information, we can assume that we have a current demand of 6.000 refugees and 7.000 students in need of an accommodation. Currently no other competitors beside the GAG, which is also building student homes, were noticed. Regarding the future, we expect that the numbers of refugee will grow for at least one more year (due to the families following if asylum had been granted) and decline afterwards. For students we expect steady growing numbers as they have been in the past.

3.4 Need Assessment for students' accommodation

As the building shall serve as a dormitory on the long run, we tried to find out opinion of students about their living condition, facilities they do want, preferred location etc. For this purpose we asked several students currently living in dormitories to have a clear view where we should build the apartments, what type of facilities we should include, how big the rooms should be, the price ratio and their will to stay with refugees.

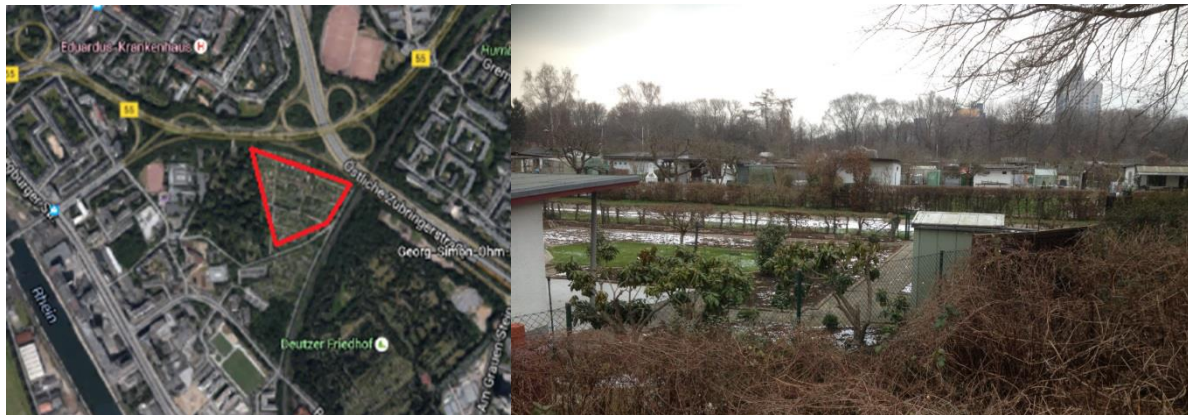
Questions	Result		Remarks
<i>Nationality</i>	16.66% are German	83.34% are international	2 out of 12 are German others are International
<i>Family Status</i>	8.33% are married	91.67% Single	1 out of 12 is married others are single
<i>Duration of living in Student hostel</i>	80% want to stay for whole study period	20% want to live 6 month to 1 year depending on their facilities.	During their whole studying period equals max. 6 semester
<i>Number of students who are still searching for a room</i>	30% students live like nomads		1 out of each 10 students still searching for a room in dormitory
<i>Facilities still need to be considered for the student's dormitory</i>	25% are satisfied	Others expect the mentioned facilities,	Larger room and kitchen, Less price, better ventilation system, 24/7 warm water, allowing pets in the room,

<i>Condition of living students would expect</i>	25% expect single apartment	Others wish to share with 2 or maximum 4 students	Freedom, privacy, Shared would be better but not with many
<i>Best place to live for the students</i>	33% want to live just near the university	33% students want to live in city center and 8.33% students are ready to live far away from university for less rent	Most of the students want to live near the university and in city center but very less amount of students are ready to compromise the distance for less rent
<i>Room rent range</i>	Only 6.9% are paying around 9 euro per square meter	Rest all are paying more than 10 euro and 9 % students are paying heights 17 euro per square meter.	Currently students are paying 9 to 17 euro per square meter. Students who are self-supporting wish to live in cheapest dormitories regardless of the location and facilities. Students who are supported by scholarship or by parents wish to have more freedom of choice.
<i>Wish to live with refugee</i>	16.67% do not have any problem to live with refugees	Rest of the students have no interest to with refugees in the same building or in the same apartment.	Most of the students do not want to live with refugees in the same building

Table 2 Need assessment for students.

3.5 Location for the investment

The place we plan to purchase for the investment is located in Deutz near the TH Köln. Currently an allotment association owns it, but is willing to sell. It has the area of approx. 3,5 hectare / 35000m² „Sondernutzungsfläche“. Neighbouring sites show high price variations due to their proximity to the Rhine river banks and closeness to major transport infrastructure arteries. However, following official price indications from BORIS.NRW and further consultant approximations, a realistic purchasing price of 300 €/m² is considered. The base price for site investments therewith equals 10.5mln €. Adding tax and additional costs slightly increases total site investments to 11.445.000 €.



Picture 2 Site for the dormitory facility

The site is abundant of social services, which will make the life of the students and refugees easier. Following advantages regarding the locations could be offered:

- 5 min walk to subway
- TH Köln in walking distance
- Deutzer Stadtpark next door
- Shopping Centres nearby
- Sports Ground in the Neighbourhood

4 Facilities

Since the residential space will be a combination of refugees and students so keeping in mind the needs of both parties the following services will be offered to the residents including some extra facilities which serve the purpose of wellbeing of the refugees –

Extra Services-

- German Classes
- Medical Services
- Cafeteria
- Entertainment Space
- Security Services

Regular Services-

- Information Desk
- Laundry Space

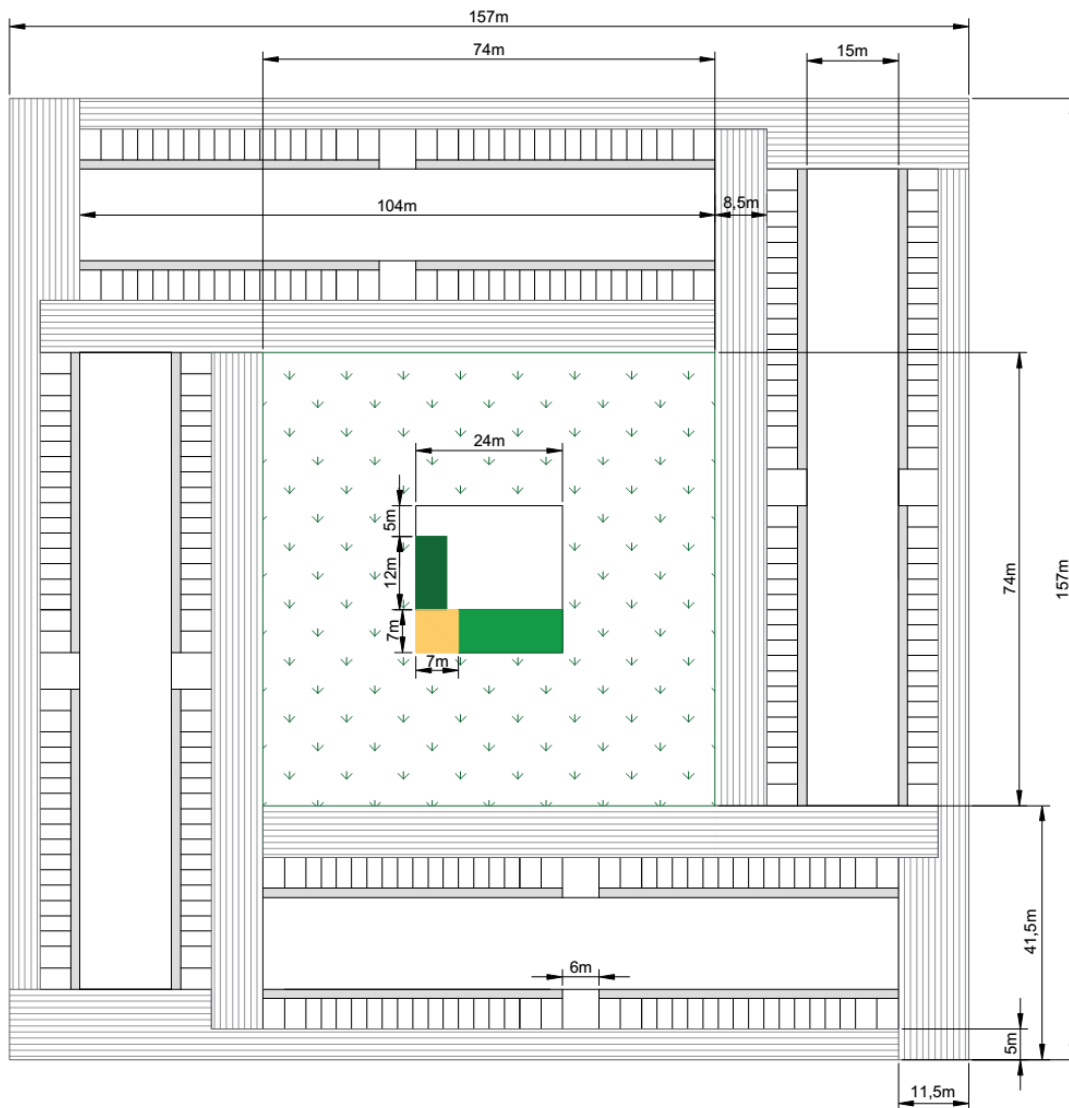
5 Financial Model

5.1 Description the Buildings and Construction Site - Building Complex

The building complex - with up to 1000 apartments - consists of four residential buildings, central building which includes the cafeteria, and outside area with parking lots and roads. In total the

construction site for this complex is 157m x 157m (24.649 m²). In the following sections, description of each part of this complex is explained.

Picture 3 depicts the Building Complex.



Picture 3: Layout of the Building Complex (Areal view).

5.2 Residential Buildings

The four residential buildings are five-story buildings and with the same design and infrastructure. It consists of five apartment floors and of a basement with the building's facilities.

In the whole building complex, we have 1000 units of apartment, which are distributed in the four residential buildings, each contain 250 units of apartment. As a definition, each unit of

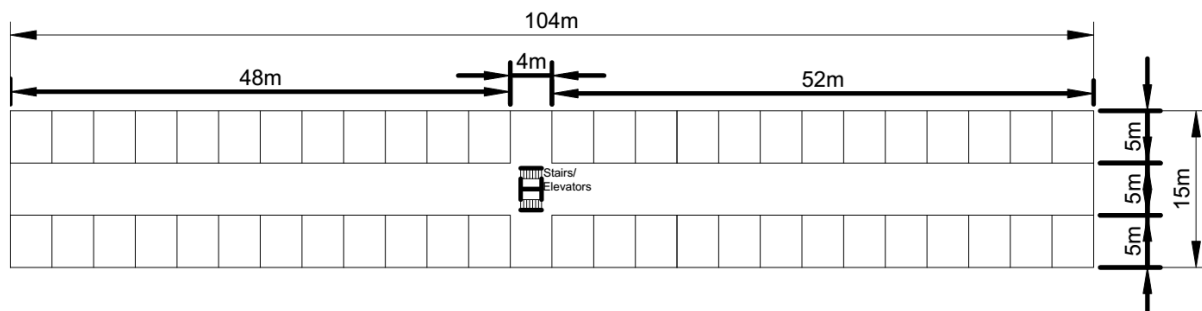
apartment is a 20m^2 space. A unit of apartment can simply be a Single Apartment for one person. And two units of apartment can be combined to establish a Family Apartment for three to four people.

Each building has a double-sided elevator situated in the center of the building.

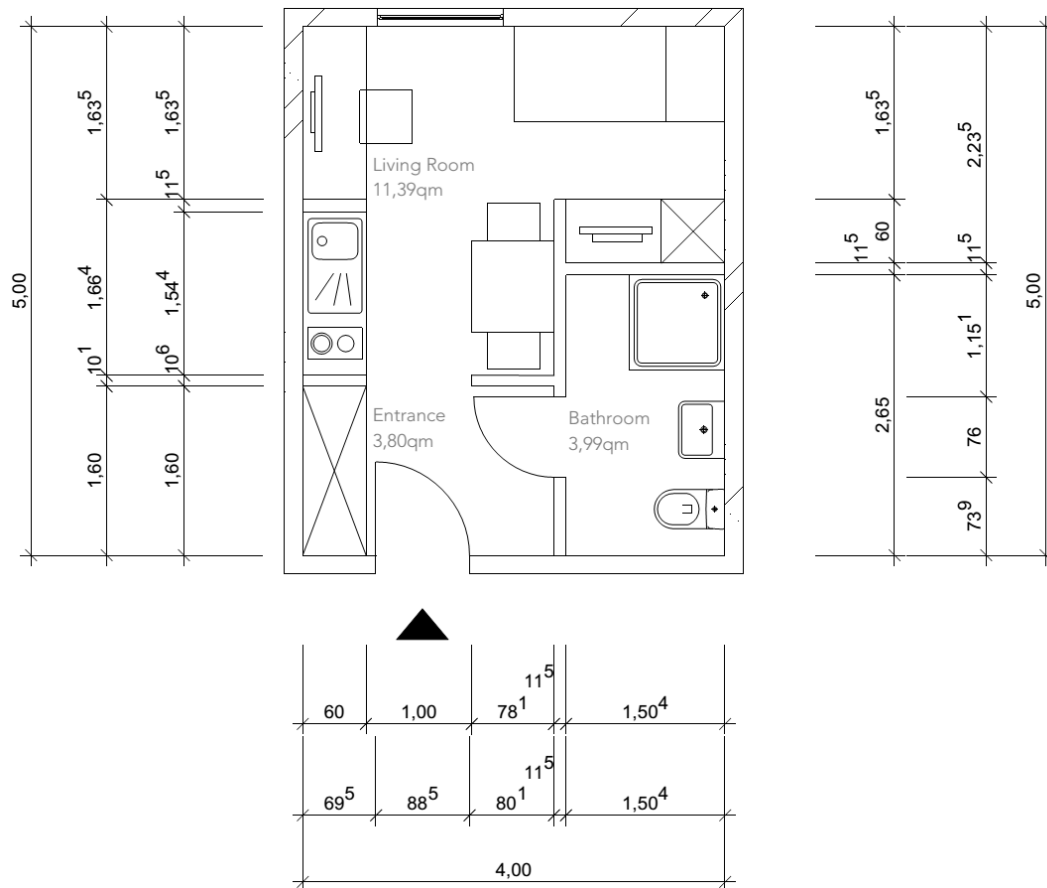
5.3 Apartment Floors

For the five floors of apartments we have the following set-up. On one side of the elevators there are 24 units of apartments (12 in front of the other 12). On the other side of the elevators there are 26 units of apartments (13 in front of the other 13). In total each floor has 50 units of apartments. So we would have 5 floors with 50 units (ground floor is the 1st floor).

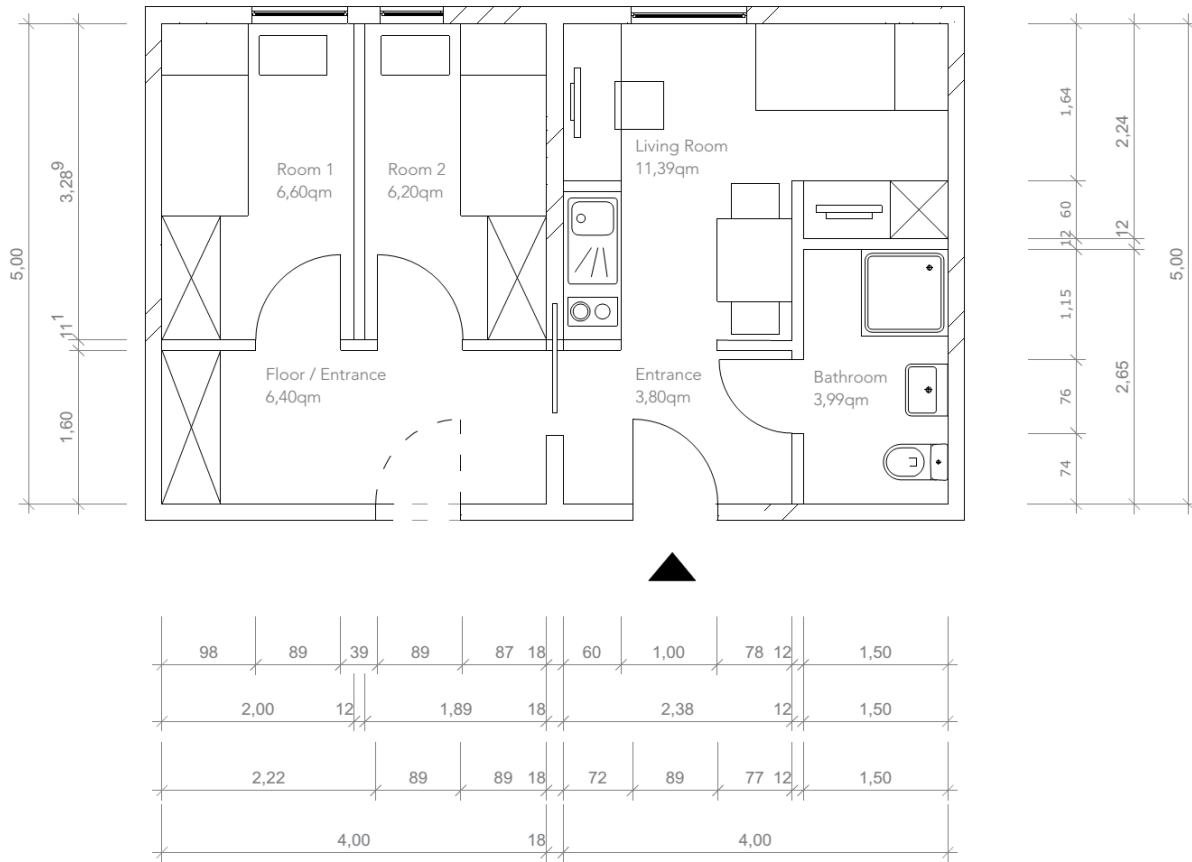
Picture 4 shows the apartment floor layout. Picture 5 and 6 show the Single- and Family Apartments, respectively.



Picture 4: Apartment Floor Layout.



Picture 5: Single Apartment.



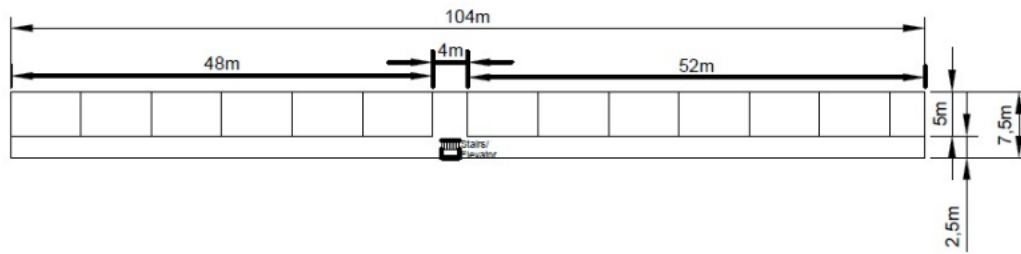
Picture 6: Family Apartment.

5.3.1 Basement

The basement is half the longitudinal size of the ground floor. It is consisted of:

- Silent room
- Laundry room
- Building's Storage room
- Renting storage room
- Heating
- Bike room
- Maintenance room
- Technical room
- Housekeeping
- Security Service

Picture 7 depicts the layout of the basement.



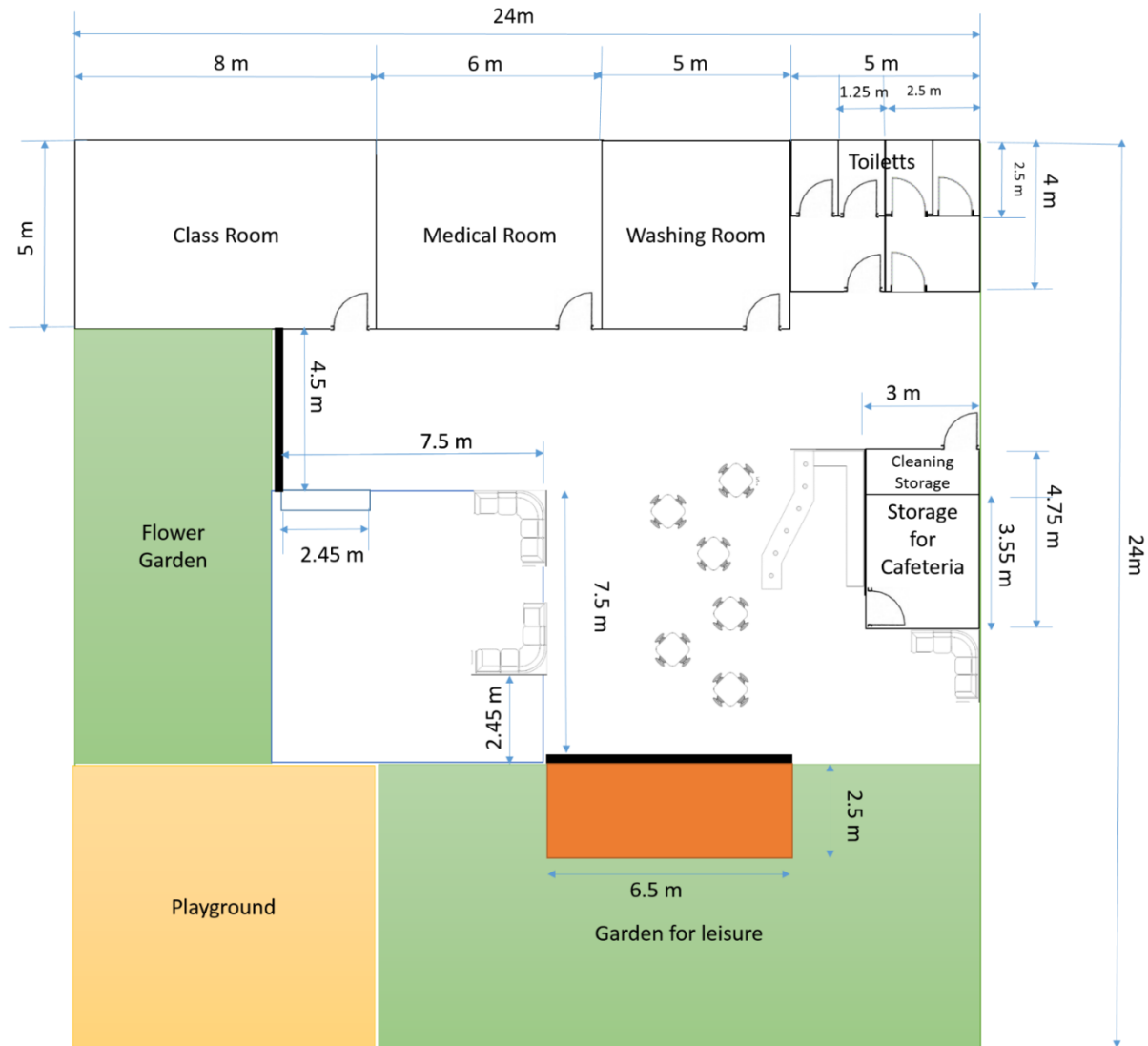
Picture 7: Layout of the basement.

5.3.2 Central Building

The central building is located right in the middle of the building complex. It is a multi-purpose building, consisted by:

- Cafeteria
- Entertainment Room
- Public Restroom
- Classroom
- Medical Room
- Co-generation plant
- Terrace

The central building, as depicted on Picture 3, has only one floor, where all the facilities are situated; and the terrace on top.



Picture 8: Layout of central building.

5.3.3 Outside Area

Outside Area is considering everything inside the Construction Site, excluding the buildings. There are:

- Green areas (Grass and trees)
- Garden
- Playground
- Bike place
- Garbage Collection
- Parking lots
- Roads

Along each long side of each building there are 28 normal parking spots, and 8 priority parking spots. In total, 224 normal parking spots and 64 priority parking. So, a sum of 288 parking spaces.

5.4 Investment Costs

The following chapter deals with the Investment Costs regarding the Cost of Construction, the Costs for Purchasing the property, the Development Costs to prepare the ground for construction, the expenditures for furniture and finally the Costs for construction of the open spaces. As described in the previous chapter, the cost calculations are based on the following assumptions and designs. The building complex consists of four five-story residential buildings of the same design, a multipurpose building with a cafeteria and service rooms in the middle of the complex and green areas, parking and service roads connecting the side to the main roads. Each residential building has an elevator, a small basement and a flat roof, the cafeteria has only one floor and is also provided with a flat roof and an outside playground.

The calculation for the Cost of Construction has been completed for one of the four identical residential buildings and for the building of the cafeteria in detail according to the Construction Costs for individual elements, for example such as exterior and interior walls and the water and energy supply for each individual floor. The basis for this approach were the statistical average data of the “BKI-Baukostenplaner” for dormitories and cafeterias of the year 2014.ⁱ Since a simple design was chosen, the calculations for unnecessary or expensive construction and design elements were omitted when possible.

5.5 Property Costs

As it has been described in Chapter 3 Market Study, the size of the property, which has been determined, is 35.000 square meters. The previous owner of the land was willing to sell at a price of 300€/m² bringing the total **Property Costs to 10.500.000€**.

5.6 Development Costs

The Development Costs include the costs to make the property ready for a new construction which comprises of the demolition and removal of existing buildings and vegetation, the

subtraction of contaminated soils, as well as the building of an underground utility infrastructure with electricity, water, gas and sewage. The average Development Costs for a property in general are estimated to be between 25-75€/m²ⁱⁱ. Since the apartment complex will be built on a ground where already small buildings exist, the demolition costs have to be taken into consideration. On the other hand, as result of previous usage there is already a well-developed supply of water, electricity and sewage on the property. For this reason, the Development Costs have been estimated to 45€/m² for further calculation. Thus, for 3,5 hectares, **Development Costs of 1,575,000€** arise.

Cost for Property Purchase (3,5 hectares)

• 10.500.000€

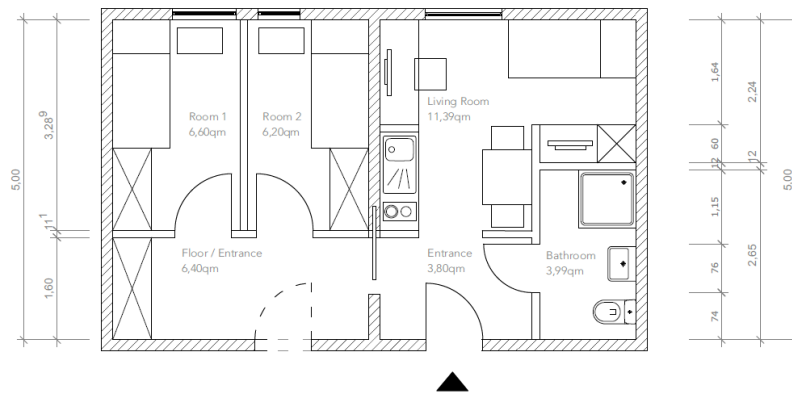
Cost for Property Development (3,5 hectares)

• 1.575.000€

Table 3: The estimated costs for buying and developing of the property of 3,5 hectares.

5.7 Construction Costs

The following cost calculation was prepared on the basis of the "BKI-Baukostenplaner 2014" on the basis of statistical data for individual components for dormitories. A detailed calculation was carried out for each floor, every small and big apartment, the cellar of the residential building and the building of the cafeteria. By calculating the area of each element, an accurate cost value could be assigned. The sum of an average value for the construction of a room or a single element such as the roof or the cellar could be calculated this way (See Table 4). The Construction Costs include the Personal Costs and equipment as well as other expenditures needed during the construction phase.

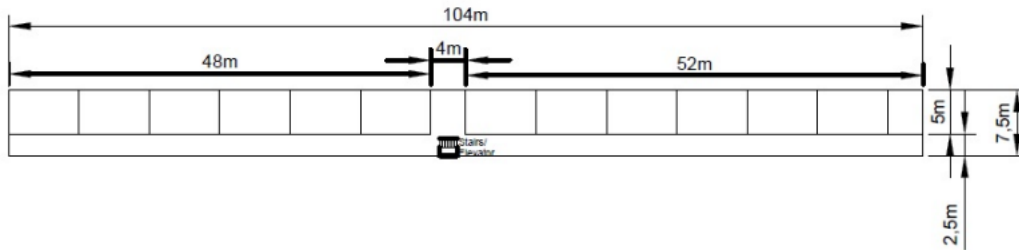


Picture 9 displays the detailed layout of a big apartment (40qm), consisting of two single units (20qm) with inner walls, one small bathroom, doors and other elements included in the calculation. The cost of technical elements, such as the lift or fire protection.

Calculation big room	m ²	in € per m ²	Total
Outside Walls	21,6	129	2786,4
Interior wall covering	21,6	22	475,2
Exterior wall covering	21,6	102	2203,2
Sun Cover	4	175	700
Outside Window	4	635	2540
Inside Wall B	12	76	912
Inside Wall C	9,6	76	729,6
Inside Wall D	6,36	76	483,36
Inside Wall E	3,6	76	273,6
Inside Wall Covering	31,56	29	915,24
Inside Door A	1,8	512	921,6
Inside DoorB	1,8	512	921,6
Floor Covering	40	120	4800
Ceiling+Stairs	40	332	13280
Water System	40	62	2480
Waste Water System	40	33	1320
Heating	40	63	2520
Ventilation	40	29	1160
Energy	40	73,6	2944
Telecommunication	40	1,4	56

Table 4 An example a detailed calculation for a big apartment listing different elements needed for construction.

The calculation for one floor included 12 large and 26 single rooms (totaling to 50 units), as well as the hallway, staircase and the elevator. Since each floor of the apartment building has the same layout the cost calculation for one floor could be multiplied by five in order to get the construction costs for one single house. Only the roof of the building and the basement, including service and maintenance rooms had to be calculated differently, as the example of Picture 10 will show. A detailed listing of the calculation is shown in Table 5.



Picture 10 illustrates the layout of the basement of each apartment building. For the calculation of the basement of the excavation and the sealing and insulation of the building from the outside had to be taken into consideration.

Cellar and Service Rooms	m ² /m ³	in € per m ²	Total
Excavation works in m ³	3300	28	92400
Retaining wall	1100	191	210100
Dewatering	1100	1,6	1760
Grounding (sealing, works, ground plate etc.)	780	329	256620
Outer walls AB	499,2	129	64396,8
Outer walls CD	36	129	4644
Outer wall coverage	535,2	102	54590,4
Inner wall coverage	535,2	29	15520,8
other costs (walls)	535,2	15	8028
Inner walls AB	230,4	76	17510,4
Inner walls CDEFGHIJKL	120	76	9120
Inner wall coverage	700,8	29	20323,2
Doors*14	25,2	671	16909,2
Ceiling and stairs	780	332	258960
Lift	780	33	25740
Water System (just Service Rooms)	480	62	29760
Waste Water System (just Service Rooms)	480	33	15840
Heating	780	63	49140

Table 5: A detailed listing of the building elements needed for the calculation of the basement.

Both the roof and the basement of all the apartment buildings share the same layout and could therefore be multiplied by four to get the total construction costs for all the buildings.

Construction Costs roof (1560qm)

- Costs for a flat roof: **532.965,00 €**

Construction Costs for one floor (1560qm)

- Big Apartment (2*20qm) (2*12 units): each **59.909,45 €**
- Small Apartment (20qm) (26 units): each **29.020,42 €**
- Hallway (560qm) (including staircaise and lift): **373.271,00 €**
- **TOTAL: 1.415.403,41 €**
- **GRANDTOTAL for five floors: 7.077.017,05 €**

Construction Costs basement (780qm)

- Basement with Service and Maintenance Rooms: **1.302.366,80 €**

GRANDTOTAL Construction Costs for one Building: 8.912.348,85 €

Table 6: Construction Costs for one single apartment building.

The cafeteria building with additional Service Rooms was calculated separately, following the average statistical data for cafeteria buildings of the “BKI-Baukostenplaner”. Since the building has only one floor, a basement was not included. Therefore, the calculation for the needed excavation, the base plate, insulation as well as the roof were included in one floor. The different construction elements are listed in Table 7.

Calculation for the Cafeteria and Service Rooms	m ² /m ³	in € per m ² /m ³	Total in €
Excavation works in m ³	537	27	14499
Dewatering	358	1,1	393,8
Grounding (sealing, works, ground plate etc.)	358	305,7	109440,6
Outer walls ABCDEF	332	122	40504
Outer wall coverage	332	139	46148
Inner wall coverage	332	56	18592
All outer Doors and windows (big glass doors)	80	706	56480
All inner doors* 11	19,8	648	12830,4
Roof (all costs)	358	390	139620
other costs (walls)	332	15	4980
Class Room			0
Inside Walls AB	29,8	89	2652,2
Inside Wall Covering	29,8	49	1460,2
other costs (walls)	29,8	8,3	247,34
Ceiling	40	373	14920
Water System	40	57	2280
Waste Water System	40	32	1280
Heating	40	662	26480
Ventilation	40	61	2440
Energy	40	98,1	3924
Telecommunication	40	22,9	916

Table 7: A sample of the single elements used for calculating of the Construction Costs for the Cafeteria, including the roof and outside surfaces such as a playground.

Construction Costs for Cafeteria Building (358qm+290qm OF)

- All Service Rooms, Roof and Main Hall and OF: **1.010.976,65 €**
- including Outside Facilities: **37.800,00 €**

Table 8: Total Construction Costs for the Cafeteria Building.

For the calculation of the green areas (mainly grassland with some small trees and bushes) an average price of 10€ per square meter was assumed. For the construction of the parking lots, roads as well as street lights and other necessary items an average price of 150€ per square meter has been considered.

Outside Green Area (19.900qm)
•Grass and vegetation: 199.000,00 €
Cost for Roads and Parking Lot (13.675qm)
•2.051.250,00 €
TOTAL COSTS Outside Area: 2.250.250,00 €

Table 9: Total Costs for Outside Facilities.

5.8 Furnishing Costs

Regarding the costs for the furniture for the apartment buildings the following assumptions have been made. A small room needs one bed with a mattress and slatted, one chair and one table, two wardrobes, one fridge and a kitchen worktop with sink for basic equipment. Since the larger rooms should be equipped for at least three people, the furnishing of the three rooms must be adapted. Therefore, it needs two additional fully equipped beds, two more wardrobes, chairs and tables. The quality of the furniture has been dimensioned according to IKEA standards. Other equipment needed for the Service and Maintenance Rooms was roughly calculated with 30.000€ per apartment house. The furnishing needed for the cafeteria and Service Rooms was calculated separately.

Furnishing costs for one Apartment Building

- Furnishing Costs for one small Room: **760,00 €**
- Furnishing Costs for a big Room: **1.660,00 €**
- Additional Furnishing Costs (all other Rooms): **40.000 €**
- **GRAND TOTAL per Building: 238.400,00 €**

Furnishing Costs for the Cafeteria and Service Rooms

- Includes Medical Room, Classroom, Kitchen etc.: **25.109 €**

Table 10: Budget for the furnishing of all buildings.

5.9 Additional Costs

The Additional Construction Costs arise from project planning services, taxes and other fees incurred for the development and the connection of the land to the supply network. They relate to the following services:

Additional Costs

- **TOTAL CONSTRUCTION COSTS: 38.910.622,05 €**
- Cost of the building permit = 0.2% of the Construction Costs: **77.821,24 €**
- Costs of surveying, architects' fees, project management= 12-15% of Construction Costs (13,5% used): **5.252.933,98 €**
- Connection Costs to public supply lines: **7.500 €**
- Electricity, water and sanitation during the construction phase= 0.6% of the construction costs: **233.463,73 €**
- Building insurance= approximately 0.14% of the Construction Costs: **54.474,87 €**
- Builders liability insurance= approximately 0.05% of the Construction Costs: **19.455,31 €**
- **TOTAL ADDITIONAL COSTS: 5.638.149,14 €**

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Table 11: Detailed overview of the Additional Costs involved.

5.10 Total Investment Costs

The following list contains all the relevant Investment Costs for the construction project. All relevant Costs will additionally be allocated to the individual apartments in order to determine the actual room price.

Costs for Property Purchase

- 3,5 hectares: **10.500.000 €**

Costs for Property Development

- 3,5 hectares: **1.575.000 €**

Construction Costs

- 4 Apartment Buildings+ 1 Cafeteria: **36.660.372,05 €**
- All Outdoor surfaces: **2.250.250,00 €**
- **TOTAL: 38.910.622,05 €**

Furnishing Costs

- Furnishing of all Apartment Buildings: **953.600,00 €**
- Furnishing for the Cafeteria Building: **25.109 €**
- **TOTAL: 978.709,00 €**

Additional Costs

- Project planning services, taxes and other fees: **5.638.149,14 €**

TOTAL Investment Costs: 57.602.480,19 €

Allocated Costs

- Small Apartment (20qm): **21.131,89 €** = A Selling Price of 50.152,30 € would equal all expenses
- Big Apartment (40qm): **21.163,68 €** = A Selling Price of 81.073,13 € would equal all expenses

Table 12: All cost items of the Investment Costs.

5.11 Maintenance Costs

	Description	Apartment size	per Apartment	sum of anual cost
	Caretaker	20	120	120.000,00 €
	Gardener	20	30	30.000,00 €
	Heating	20	140	140.000,00 €
	Freshwater/ Wastewater	20	180	180.000,00 €
	Rent for fresh water meters	20	4	4.000,00 €
	Electricity	20	50	50.000,00 €
	Electricity for Intranet	20	3,2	3.200,00 €
	Cleaning public spaces/halls/	20	88,4	88.400,00 €
	Rainwater	20	8	8.000,00 €
	Waste fee	20	84	84.000,00 €
	Street cleaning	20	1	1.000,00 €
	Maintenance Fire extinguisher	20	1,4	1.400,00 €
	Maintenance Heat and smoke vent	20	2	2.000,00 €
	Maintenance Fire door	20	1	1.000,00 €
	Maintenance Elevators	20	80	80.000,00 €
	Maintenance Garage	20	7,2	7.200,00 €
	"Wohngebäude-Versicherung"	20	38	38.000,00 €
	owner's liability insurance	20	5,2	5.200,00 €
	Internet fee	20	43	43.000,00 €
Subtotal (I)				886.400,00 €

Table 13: Maintenance: Allocatable Costs („Umlagefähige Kosten“).

Description “Allocatable Costs” (umlagefähige Kosten) ABOVE

- Caretaker: Three full time employees; working 1700 h/years; cost 40.000€ per Year
- Gardener: One full time employee; working 1700 H/years; cost 30.000€
- Heating: Values taken from BFW (Bundesverband freier Immobilien- und Wohnungsunternehmen)
- Fresh-/Wastewater: Estimated values taken from comparable dormitory in Aachen
- Rent for fresh water meters: Yearly average cost for four blocks
- Electricity: : Electricity consumption in every dwelling unit (1000)
- Electricity for Intranet: Electricity consumption in communal areas

- Rainwater fee: Money paid to municipality for blocking rainwater ground infiltration
- Waste fee: Garbage collection from centralized containers by waste-management company(AWB Köln)
- Street cleaning: Fee to AWB Köln
- Maintenance:
 - Fire prevention (exinguisher+smoke vent+fire doors): Inspections required by law
 - Elevators: 20.000€ yearly per Block (Inspections + Emergency equipment)
 - Building Insurance: For all not moveable items of the construction (Required by law)
- Owners liability insurance: Insurance fee that the owner is obliged to pay for any potential damage awarded to a member of the public if they suffer an injury following an accident on, or linked to, your premises
- Internet fee: Negotiated with local ISP

"nicht umlagefähige Kosten"		
	Description	sum of anual cost
	General Repair & Restoration	80.000,00 €
	Repairing (Elevator)	10.000,00 €
	Repairing (washing machine & dryer)	8.000,00 €
	Repairing (pipe cleaning)	6.000,00 €
	Repairing (Vandalism)	25.000,00 €
	Reparing (windows)	8.000,00 €
	Repairing (IT/Intranet)	6.000,00 €
	legal costs	2.000,00 €
	administration fees (outsourced)	69.720,00 €
	account management fees (bank charges)	2.000,00 €
	Subtotal (II)	216.720,00 €

Table 14: Maintenance: Non-Allocatable Costs („Nicht-Umlagefähige Kosten“) (included in the Excel-Calculations)

- All costs are estimated values taken from comparable dormitory in Aachen

- Legal costs: Lawyer, Court
- Account management fees: bank account charges
- Tender for outsourced administration (see image below) →

Verwaltungs-Angebot (**Miethausverwaltung**) für das Objekt in

50679 Köln, Alter Deutzer Postweg

Nachstehend folgt unser **unverbindliches Preisangebot für die Objektverwaltung pro Monat** auf der Grundlage der von Ihnen gemachten Angaben. **Das Angebot erfolgt freibleibend und unter Vorbehalt, da viele preisbildende Faktoren erst nach einem Ortstermin und einem persönlichen Gespräch abschließend bewertet werden können.**

Wir würden gern von Ihnen hören und einen Termin vereinbaren. Weitere Informationen und Dokumente finden Sie auf unserer Homepage www.hausverwaltung-koeln.com

Miethausverwaltung
Objekt: 50679 Köln, Alter Deutzer Postweg

<i>Anzahl und Art der Einheiten</i>	<i>Einzelpreis €</i>	<i>Gesamtpreis €</i>
1000 Wohnungen	-4,98	-4.980,00
500 Freiluft-Stellplätze	-1,66	-830,00
Zwischensumme		-5.810,00
+ 19 % Mehrwertsteuer		-1.103,90
Gesamtpreis		<u>-6.913,90</u>

Bedenken Sie bitte, dass der Preis nur **ein Kriterium** von vielen ist, die bei der Auswahl des zu Ihnen und Ihrer Immobilie passenden Hausverwalters relevant sind. Vor allen Dingen sind die Qualifikation, die Erfahrung, die Zuverlässigkeit und das Engagement der Hausverwaltung entscheidend für eine erfolgreiche Zusammenarbeit. Was nützt Ihnen ein niedriger Preis, wenn die Hausverwaltung nicht für den Werterhalt Ihrer Immobilie sorgen kann? Jede qualifizierte Leistung hat daher logischer Weise auch ihren Preis.

Wir würden uns sehr freuen, für Sie tätig werden zu dürfen.

- Administrative Costs are already included in the Excel file (Cost Calculation Maintenance)

5.12 Service Costs

Service costs are dealt with as one package of extra costs, next to the mere dormitory for students and refugees. This will help us in further decision taking. If the additional costs will not be covered by the investor - mainly the municipality - we will have an idea on what measures will have to be taken to make it self-paying. This means either the adjustment of prices or reducing the services.

Service costs include the costs for the following services offered in the ground floor, located in the yard of the four dormitory buildings: Cafeteria, entertainment area, medical room, class room, washing room, outside area including an area for barbecue, flower garden and playground (compare the floorplan). Mentioned ground floor is allowing a lot of sunlight to enter and therefore has big windows, or glass doors leading to the terrace and garden inserted in all walls. This is supposed to make the service building unit an inviting place to be. In the following we describe the assumption we based our calculations on.

5.12.1 Cafeteria

A small cafeteria that will offer coffee from a coffee machine and filtered coffee, tea and other hot beverages, cold beverages, snacks, including a small assortment of pastries and phone cards.

We assumed that, regarding the beverages, the main customers will be the students as refugees will rather avoid spending money on beverages they can prepare themselves at home. Therefore, we took 500 potential customers as a first reference number. As not all will be interested in buying coffee at the same time, we for now assume 10% of the students in the first years as regular customers, which would be a maximum of 50 students at the same time, most probably in peak hours. We define the peak hours as follows: 1) the morning hours before going to university 2) a smaller peak at the noon due to its close location to the university (coffee and cake time) and 3) the late afternoon hours as the second smaller peak for the students that come home and go for a last hot beverage. As not all will necessarily sit down and we see it as highly probably that half of them will take a coffee to go – especially in the morning peak – we assumed that seats for 25 – 30 people at the same time should be sufficient. This might still give the impression of an unreasonably high number of seats, but as this is not meant to act as a regular

café, but rather as a welcoming meeting point for all dwellers, people that do not go for a coffee are being offered to sit in the cafeteria or the adjacent entertainment area.

Therefore, the furniture and open space is based on the assumption of 25 customers at most sitting at the cafeteria and 50 customers at most looking for a coffee at the same time (compare the service costs table).

5.12.2 Entertainment Area

As already mentioned an entertainment area is included in the bigger hall of the building that contains the services. It is adjacent to the cafeteria and visibly separated from the cafeteria area by being lowered down one level.

The entertainment room is meant to have an atmosphere of a welcoming living room, where dwellers of the dormitory can meet and get to know each other. This stands in line with our aim to support the integration process. Next to comfortable couches and a rug you can find TV equipment and Kicker. A play station is in discussion.

The sofas in the entertainment and cafeteria area are positioned in a way that you have a sight on the playground and the garden. Parents are therefore able to keep an eye on their children meanwhile sitting together with others.

5.12.3 Medical Room

This is a simple facility meant for first aid service for light injuries. Since the dormitory should be targeting mostly students and refugees with families, we got the idea of a medical room similar to those found in primary schools. Consequently, equipment, size of the room and number of employees is orientated on these.

5.12.4 Class Room

The classroom is targeting the refugees' needs and is meant to facilitate German classes as learning the language is the first step of integration. The Red Cross is offering teaching services, so this organization should be contacted to organize everything concerning the handling of German classes. We assumed that a ratio of 25 - 30 students to one teacher is a reference to keep the teaching quality on a good level. As a continuous reduction of the share of refugees is expected in the next 10 years we kept it down to one room and suggested to work in shifts to

offer classes for the 500 potential students of the dormitory. This enables us to work on different language levels.

If the room no longer needed as a class room, it could be for instance be transformed to a small gym or whatever is demanded after 10 years.

5.12.5 [Outside Area](#)

As already mentioned, the outside area surrounding the service building unit adds to the welcoming atmosphere and to the function of a meeting place for sparking integration. The flower garden is more of an esthetic component, meanwhile playground and terrace invite families and young people to spend time, have barbecue and other events there.

Materials	Quantity	specific price in EURO	Sum total
Cafeteria			-
Counter+shelves	1	5.000	5.000
Automatic Coffee machine	1	1.500	1.500
Filter coffee machine	1	60	60
Seats	25	15	375
Tables	6	80	480
Couch	1	350	350
Couch table	1	40	40
Mini refrigerator	1	100	100
Mini bake oven	1	60	60
Shelf	1	150	150
Freezer	1	200	200
Entertainment			-

TV	1	130	130
Corner couch	2	350	700
Foosball table	2	69	138
Couch table	2	40	80
Arm chair	2	60	120
Toilet			-
Toilet seats	4	138	552
Wash basin	2	40	80
Trash bin	2	10	20
Toilet paper holder	4	10	40
Class room			-
Seats	30	14	420
White board	1	621	621
Table	16	213	3.408
Playground			
Swing+slide	1	360	360
Washing room			
Washing machine	10	529	5.290
Dryer	5	519	2.595
Wash basin	1	40	40
Trash bin	1	10	10
Medical room			
Bed	1	100	100
Table	1	89	89
Movable table	1	66	66
Cabinet with wash basin	1	70	70

Wall cabinet	1	35	35
Wheel chair	1	95	95
Computer	1	126	126
Trash bin	2	10	20
seats	3	10	30
shelf	1	45	45
Information room			-
Information Desk	1	150	150
Table	4	89	356
Seats	4	10	40
File cabinet with drawers	1	99	99
Shelf	3	45	135
Computers	2	126	252
Printer	1	48	48
Security room			-
Table	1	89	89
Seats	2	10	20
Maintenance room			-
Table	1	89	89
Computer	1	126	126
Shelf	2	45	90
Seats	2	10	20
Total Costs			€ 25.108,73

Table 15: Costs for interior of the social facilities.

5.12.6 Additional Services

Additional to the already mentioned services, we offer an information desk, that is mainly responsible for complaints, key administration and furthermore a support for refugees in

paperwork as mediators and advice givers. As we deal with an international and cultural mix of dwellers, we also offer one silent room, which can be nicely decorated after the first people to move in. Ideas on that can be collected amongst the residents. Then we have a security service and a maintenance room. All these additional services take place in rooms integrated in the dormitory buildings.

5.12.7 People Employed

As the cafeteria has mainly one main “rush hour” in the morning and two slightly less prominent following in the noon and late afternoon time, not more than 4 employees a day are needed. We suggest to have three shifts (8am to 12pm, 12pm to 3:30pm, 3pm to 7pm) from Monday to Friday and only one shift for Saturday and Sunday (11am – 6pm). Each shift is taken by one person. This means a total working hours of 91,5 a week, which results in the employment of at least two full-time (40h) and one part-time baristas (15h) and one bar manager responsible for the logistics and work schedules, working 10h a week.

As teaching will take place in shifts and only 25 to 30 students can be taught per day, we assumed that two full-time teachers should be employed. Thus each teacher will have two shifts of two hours a day (8am – 4pm). That means 100 to 120 students can be taught per day. This means all refugees have the chance to at least have one session of two hours per week. The amount of offered German classes can be adjusted to the real demand and therefore the contracts of teachers should remain flexible as fee-based contracts. As mentioned before, the Red Cross could be contacted in this regard.

The employees of the other services are always kept at a minimum, working in shifts. The total labour costs will be at around 194.515 Euro.

Labor Costs	
Cafeteria Total	63.360
Medical Room Total	28.800
Security Total	30.931

Information Desk Total	19.584
Maintenance Total	51.840
Total:	194.515

Table 16: Labor costs of the employees.

6 Conclusion

Interpreting current and expected peak demands for cheap and functional accommodation it can be concluded that only a fraction of the total local demand can be covered on the short and mid-term run. For both students and refugees there is high demand of appropriate, yet partially flexible housing opportunities.

Matching general demands with financial, social and constructional frame conditions, we target the construction of 1000 dormitory units, equally distributed among four towers. The standard size for each unit is 20 m² and the apartments should be built in a flexible way that enables us easily change the room size to 40 m² by jointing two rooms to have place for small families and flat-sharing students.

Regarding the rent, we foster a final rent price of 300 € per month for the standard sized rooms, which is a competitive price when considering the offer of new apartment within walking distance to University of Applied Sciences. We can therefore assume that the dormitory will be rented out permanently.

Investing approx. 11.5mln € into the property site as such will create the baseline of a modern student accommodation, gaining high attractiveness through its proximity to numerous amenities.

7 References

- I. BKI Kostenplanung (2014): Baukosten Bauelemente. Statistische Kostenkennwerte. Stuttgart.
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